

Navajo Abandoned Uranium Mine

Site Screen Report

This form is for use at the site of abandoned uranium mines (AUM) located on Navajo Nation lands. Applicable sites include all mine and mine features that have or have not undergone reclamation by the Navajo Abandoned Mine Lands Reclamation Program, including features, adits, pits and waste piles. Applicable sites also include all AUM sites listed in the USEPA CERCLIS database, all sites listed in the 2008 AUM GIS Report issued by USACOE and USEPA, all AUM sites on allotment lands associated with the Navajo Nation, and any and all AUM sites not listed in any database located on Navajo lands. Reconnaissance of any sites located on lands adjacent to Navajo lands that may be impacting Navajo lands will need to be coordinated with the authorities appropriate to those lands.

The purpose of the form is to ascertain the status and location of the identified AUM site, and record all immediate site information associated with the mine site. Decisions and recommendations on what additional steps are needed will be provided on a separate document.

Black Hair No. 4 AUM Site

Navajo AUM Western Region

Prepared by:

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Contract: W91238-06-F-0083

12767.063.599.1111

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Part I Site Identification, Location and Status**Site Names and ID numbers as applicable****Mine ID:** 384**Map ID:** W67**CERCLIS:** NNN000909105**Navajo Abandoned Mine Land Reclamation Program:** None**Local name / Aliases:** Blackhair #4**Chapter and local area:** Cameron Chapter**County:** Coconino **State:** Arizona**Lat/Long:** 35.8126992549 N / -111.436811568 W**Nearby road and highway:** Highway 89 **Local Post Office:** Cameron, AZ**Surface Land Status: check one or more and provide ownership and contact information below****Tribal Trust Land**☒**Private**☐**Bureau of Land Mgmt**☐**State**☐**Public lands**☐**Tribal Fee Land**☐**Allotment**☐**Fee land**☐**Subsurface Mineral Rights:**

No information on subsurface mineral rights ownership was found in the EPA/AUM Database.

Claim and operator information:

The mine site surface land status is classified as Tribal Trust Land. No additional ownership / lease information was identified in the EPA/AUM database.

Number of residential structures within 200 feet of mine: None**Estimated volume of mine waste onsite:** None

Part II Summary of radiological readings

Highest gamma radiation measurement:

46,385 counts per minute (cpm)

Describe any other radiological measurements:

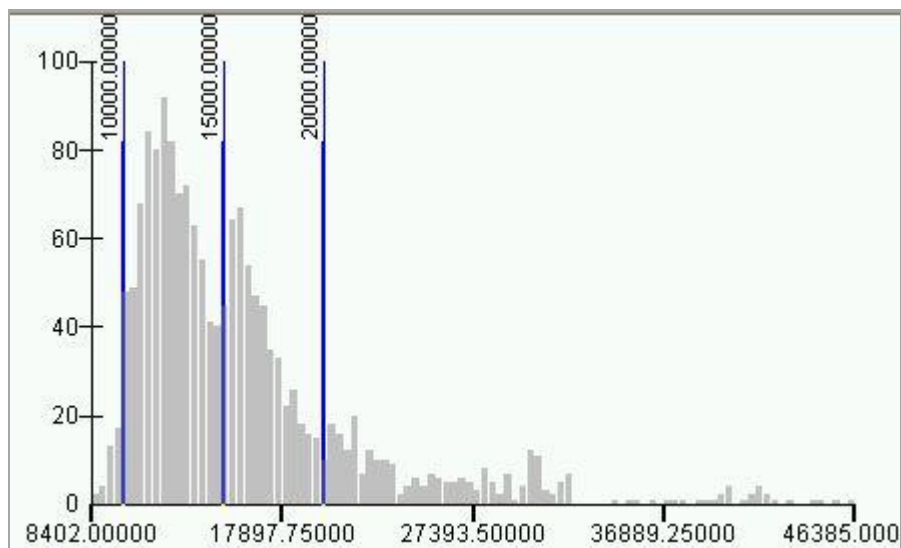
A total of 1,642 gamma radiation measurements were collected from the mine site, ranging from 8,402 cpm to 46,385 cpm. The measurements collected at an isolated piece of petrified wood on front porch of the nearby house were found at a maximum level of approximately 45,000 cpm. The measurements are represented in Figures 1 and 2.

Background Readings: 11,333 cpm

Background Average: 11,333 cpm

Distribution Chart and Statistics:

The following chart and statistics were generated by ESRI ArcGIS 9.3.1, and show the general distribution of the site gamma radiation measurements. The horizontal X axis represents the gamma radiation reading levels in cpm (lowest levels to the left). The vertical Y axis represents the frequency of each gamma radiation level.



Count:	1642
Minimum:	8402.00000
Maximum:	46385.00000
Sum:	26157355.00000
Mean:	15930.17966
Median:	14308.50000
Standard Deviation:	5878.48384

Part III Status of Reclamation and Mine Waste

The following information was obtained from the Navajo Abandoned Mine Land Reclamation Program (NAMLRP) Point Features Database:

NAMLRP Status of the mine site: Reclaimed : No Waste Pile onsite : No

NAMLRP Project Number: None

NAMLRP Mine features: 1 Prospect

The following information was obtained from field observations collected during the 2010 site screening:

Provide description and status of all mine sites and features at site. Include all waste piles, adits, pits and other features, and indicate whether they are open, closed, covered, capped, buried or unreclaimed. Indicate approximate size, shape and extent, including description of any reclamation caps. Note condition of all caps.

Observed reclamation work and status:

Adits

None

Waste Piles

None

Pits

None

Shafts

None

Other Debris and Mine Features

None

Part IV

Site observations and Environs

Observed Structures: list number of and describe human habitation status of structures at the following distances from mine:

0 to 200 feet: None

200 feet to 0.25 mile: House approximately 0.25 NW of site

Observed Public or commercial structure: list and describe all schools, clinics, Chapter Houses, places of business and any other structure used by members of the community at the following distances:

0 to 200 feet: None

200 feet to 0.25 mile: None

Levels measured around the perimeter(s) of the identified structure(s):

42,000 cpm from petrified wood collection at house

Observed water sources: list the number and type of wells and surface water sources that are potentially used for human consumption at the following distances from the mine:

0 to 0.25 miles: None

0.25 miles to 4 miles: Windmill Well approximately 3.5 mi SE of the site; Little Colorado River Basin approximately 4 mi NE of the site

Sensitive environments: note and describe all sensitive environments located within visible range of the mine site, including: wetlands, endangered species, habitats and approximate locations of sites that may be under protection of the government of the Navajo Nation.

None observed

Known Site History: include information from interviews with Chapter officials and residents. Note information on mine ownership, type of mining operation, period of operation, known amount of production, and any other information as provided.

Black Hair No.4 mine consists of an area of 11,657.68 m². No other historical information or any additional ownership / lease information was identified in the EPA/AUM database.

Part V Response Action Summary

Summary of Evaluation Factors:

Accessibility:

Was the mine easily accessible to potential human activity?

Yes

Radiological Measurements:

Were any gamma radiation measurements collected at the mine greater than two times the site-specific background levels?

Yes

Waste Piles:

Were any unreclaimed waste piles observed at the mine with gamma radiation measurements greater than two times the site-specific background levels?

No

Structures:

Were any structures observed within 200 feet of the mine?

No

Potential Drinking Water Sources:

Were any potential drinking water sources observed within 4 miles of the mine?

Yes

Reclamation:

Was the mine reported to be previously reclaimed, or did the mine appear to be reclaimed?

No

Part VI Photos



Photo 1. Black Hair No. 4 mine site



Photo 2. Black Hair No. 4, residence 0.25 mi northwest of site

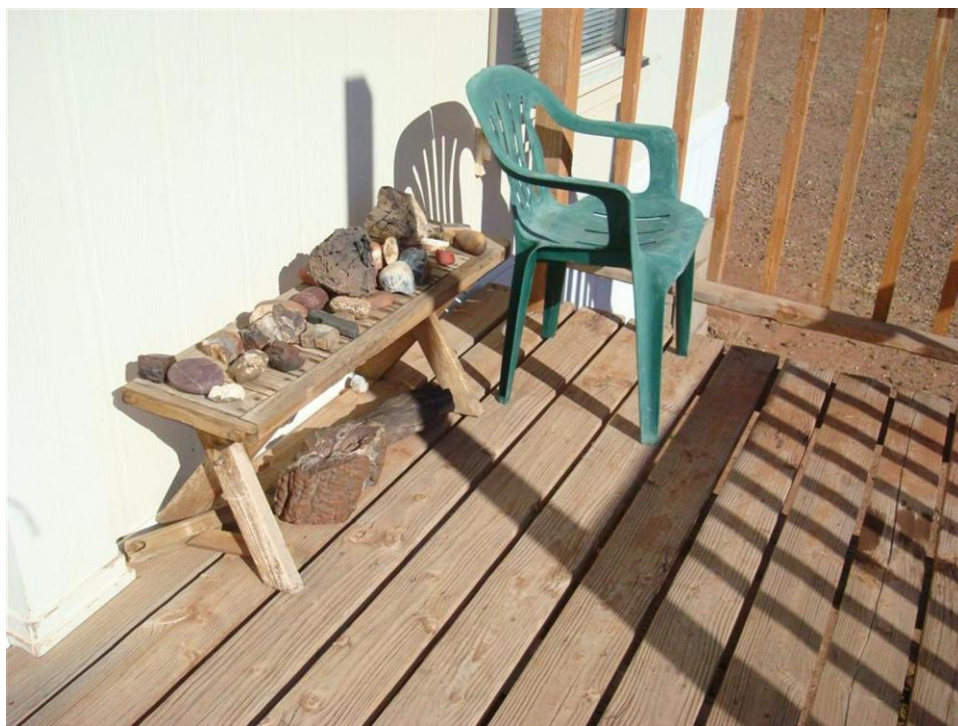


Photo 3. Black Hair No. 4, elevated gamma readings from rock collection at nearby residence

Part VII Contacts Reports and InformationName: Stanley Edison (928) 871-6861Eugene Esplain (928) 871-7331Title or official role (if any) Navajo EPA Superfund ProgramAddress PO Box 2946, Window Rock, AZ 86515Information provided Lead Regulatory Agency

Name _____

Title or official role (if any) _____

Address _____

Telephone number _____

Information provided _____

Name _____

Title or official role (if any) _____

Telephone number _____

Information provided _____

Name _____

Title or official role (if any) _____

Telephone number _____

Information provided _____

**Figure 1 - Gamma Radiation Measurements, Above Two Times Background
Black Hair No.4 (384)
Cameron Chapter, Navajo Nation**



Legend

Gamma Radiation Measurements

- < 2X Background
- > 2X Background

Gamma survey conducted 11/2010
Measured as counts per minute (cpm)

Average background 11,333 cpm

→ General Slope Direction



Observed Structure



Mine Site Boundary



0 400 Feet



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Figure 2 - Gamma Radiation Measurements
Black Hair No.4 (384)
Cameron Chapter, Navajo Nation



Legend

Gamma Radiation Measurements

- 0 - 10,000
- 10,000 - 15,000
- 15,000 - 20,000
- 20,000 - 50,000
- 50,000 - 100,000
- > 100,000

→ General Slope Direction



Observed Structure



Mine Site Boundary



0 400 Feet

Gamma survey conducted 11/2010
 Measured as counts per minute (cpm)

Average background 11,333 cpm

